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Phase I for  
Parcel C

PHASE I ENVIRONMENTAL ASSESSMENT  
DOUGLAS AIRCRAFT C-6 FACILITY  
PARCEL C

MCDONNELL DOUGLAS REALTY COMPANY

MAY 1996

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## 1.0 EXECUTIVE SUMMARY

McDonnell Douglas Realty Company (MDRC) retained Kennedy/Jenks Consultants to perform a Phase I Environmental Site Assessment (PESA) on a parcel (Subject Property) of the Douglas Aircraft Company (DAC) C-6 Facility in Torrance, California. The parcel, Parcel C, is located in the southern half of the facility and is bounded by the remainder of the C-6 facility to the north, the Industrial Light Metals facility to the west, South Normandie Avenue to the east, and the former Montrose Chemical site and a DAC storage yard to the south. Facility structures included in the Subject Property were Buildings 1, 2, 3, 4, 11, 13, 14, 15, 19, 40, 41, 45, and 66, the southern portion of the west employee parking lot and the south employee parking lot. The area surrounding the C-6 facility consists mainly of light industrial and manufacturing facilities.

The C-6 facility is topographically flat, with an elevation of approximately 50 feet above mean sea level. The facility is located within the Torrance Plain and underlain by the Lakewood Formation which consists mainly of gravel, sand, clay, and silt. Water bearing zones beneath the parcel include the Lynwood Aquifer and the Gage Aquifer. The groundwater gradient is generally to the southeast. Recent groundwater elevation measurements indicate that the depth to groundwater is approximately 65 feet below ground surface.

Prior to 1941, the Subject Property was undeveloped farmland. In 1941, the Subject Property was developed by a US government agency as an aluminum plant. DAC occupied the facility in the 1950s and eventually purchased the property in 1970.

Historical manufacturing activities on the Subject Property have included aluminum forging operations, warehousing, and aircraft parts manufacturing. Hazardous materials have historically been used and stored on the site. Previous long-term handling and storage practices of hazardous materials and wastes are difficult to assess due to the age of the facility.

Kennedy/Jenks reviewed environmental records provided by DAC and performed a search of regulatory agency databases to identify properties in the vicinity that may impact the

Subject Property. Underground storage tank (UST) records indicate that at least 28 USTs have been previously located on the Subject Property. None of the 28 remain in service today. The records review revealed that groundwater beneath the Subject Property has been impacted by volatile organic compounds (VOCs). Results from a Phase II investigation in the western parking lot suggests that VOCs may be migrating onsite in shallow zone aquifers beneath the Subject Property from offsite sources.

## **2.0 INTRODUCTION**

This report summarizes the results of a PESA of a parcel of the DAC C-6 complex located at 19503 South Normandie Avenue in Torrance, California. The PESA was conducted by Kennedy/Jenks Consultants (Kennedy/Jenks) on behalf of McDonnell Douglas Realty Company (MDRC). The location of the C-6 complex is presented in Figure 1. A layout of the C-6 facility, including the area of the complex evaluated for the PESA is presented in Figure 2. The findings of the PESA are based on site walk-throughs performed by Mr. Rick Pastore of Kennedy/Jenks during March and April 1996. Supplemental information was obtained from interviews with DAC facilities personnel, from facility regulatory and environmental compliance documents provided by DAC Environmental Services, from a review of available regulatory agency files, and from a review of historical aerial photo collections.

### **2.1 Purpose**

MDRC is considering development of Parcel C, the southern section of the DAC C-6 complex. MDRC retained Kennedy/Jenks to conduct a PESA regarding past and present operations in this section of the facility (Figure 2).

### **2.2 Scope of Services**

Kennedy/Jenks performed the following Scope of Services in conjunction with this PESA:

- Reviewed the history of the Subject Property. Historical information was obtained from a review of historical facility drawings, interviews with DAC personnel, and a review of aerial photographs available from the Aerial Map Industries, Inc. collection in Irvine, California and the Spence collection and Fairchild collection at the University of California, Los Angeles.
- Reviewed available public records regarding previous environmental investigations and remediation activities at the Subject Property, inspection records, and groundwater monitoring reports obtained from DAC Environmental Services; and regulatory agency databases pertaining to site environmental compliance interests at the Subject Property.
- Performed a site walk-through of the Subject Property to observe current recognizable environmental conditions. The site walk-through focused on chemical handling, presence of storage tanks, hazardous substance and waste handling, and potential releases of hazardous materials on the Subject Property. In addition, Kennedy/Jenks performed a reconnaissance of the adjoining properties to identify potential impacts to the Subject Property.

## **2.3 Limitations and Exceptions of Assessment**

The PESA is based on visual observations of existing site conditions, interviews of personnel familiar with the facility, and a review of relevant compliance documents and regulatory agency files. No environmental sampling or laboratory analyses were performed in conjunction with the PESA. The findings do not constitute a warranty, guarantee, or positive assertion as to the presence, absence, or extent of hazardous materials at the Subject Property. This PESA was prepared by Kennedy/Jenks for sole beneficiary use by MDRC and is not intended to be relied on by others.

This PESA report represents Kennedy/Jenks' professional opinions and judgments, which are dependent upon information obtained during performance of consulting services. Environmental conditions may exist at the Subject Property which cannot be identified by

visual observations only. The accuracy of information and data supplied by others has not been independently verified by Kennedy/Jenks during the performance of this PESA.

## **2.4 Methodology**

This PESA has been prepared in accordance with standards set forth in ASTM Standard E-1527-93. These standards have been developed by ASTM to establish general site assessment practices that satisfy due diligence responsibilities of participants in real estate transactions.

## **3.0 SUBJECT PROPERTY DESCRIPTION**

The following sections describe the Subject Property history and the geographic setting of the Subject Property. Subject Property history was compiled from DAC historical facility drawings, DAC environmental reports, interviews with DAC employees, and a review of available aerial photographs. A selection of pertinent aerial photographs reviewed for this PESA are presented in Appendix A.

### **3.1 Subject Property Description and History**

The Subject Property is a portion of the DAC C-6 manufacturing complex located at 19503 South Normandie Avenue in Torrance, California (Figure 2). The topography of the facility is essentially flat with an elevation of approximately 50 feet above mean sea level (msl). The areas of the facility studied for this report include Buildings 1, 2, 3, 4, 11, 13, 14, 15, 19, 40, 41, 45, and 66, the southern portion of the west employee parking lot and the south employee parking lot. Operations at the Subject Property include aircraft parts assembly and warehousing.

Aerial photos indicate that the Subject Property was farmland prior to the 1940s. The Subject Property was first developed by the Defense Plant Corporation in 1941 as part of an aluminum reduction plant. The plant was operated by the Aluminum Company of America until late 1944 (CDM, 1991). In 1948, the property was acquired by the Columbia Steel Company (CSC). In March 1952, the US Navy purchased the property from CSC



and established DAC as the contractor and operator of the facility for the manufacturing of aircraft and aircraft parts. DAC purchased the property from the Navy in 1970 (CDM, 1991).

Most manufacturing operations at the Subject Property have been inactive for approximately four years. Most of the manufacturing equipment has been removed from the facility. A limited amount of assembly and activities related to warehousing currently continue. A plot plan showing individual operation areas within the facility as they were in 1984 is included in Appendix B.

The following sections briefly describe the structures and evident previous activities performed in each building on the Subject Property.

#### Building 1

Building 1 is an approximately 250,000 square foot building currently used as a parts and records storage warehouse. The building was originally used as a carbon baking area when the facility was an aluminum production plant. More recent activities have included metal finishing processes such as heat treating, milling, and pressing. Most equipment has been removed.

Historical drawings from the 1940s up to 1984 and aerial photographs indicate that Building 1 was originally three individual buildings with two enclosed patio areas between the three buildings. The drawings show that one patio area was an emissions scrubber and water treatment area. According to a 1952 demolition drawing, other structures removed from the patio areas included a smoke stack, a pump house, and six underground fuel storage tanks.

A one-level basement underlies portions of the structure. The basement was not part of the original construction of the three buildings; it may have been added in the 1952 renovation of the building. The basement is currently used for the storage of dies and molds. DAC personnel stated that the east wing of the basement was once used as a

painting area. There are three freight elevators and three stairways providing access to the basement.

Floor patches on the first level and in the southwest corner of the Building 1 indicate the former location of several drop hammer pits. According to DAC personnel, these pits were approximately 10 feet deep. The pits have been filled with concrete with the exception of one pit which is covered with steel plates.

A mezzanine level in an annex at the north end of the building houses several transformers that are labeled as containing polychlorinated biphenyls (PCBs). This area is outside the boundaries of the Subject Property.

## Building 2

Building 2 is an approximately 1,000,000 square foot structure currently used as a parts assembly and parts storage warehouse. Aerial photographs show that activities in the building included aluminum reduction operations at the time of its construction. More recent activities have included aircraft parts manufacturing and assembly.

The building is divided into six east-west wings that are separated from each other by outdoor patio areas. The patio areas are not continuous across the length of the structure; there are four separate patio areas between each east-west wing. Uses of each of the patios vary. Some of the patio areas have been improved with the construction of two-story office structures. Other patio areas were used as recreation areas or work areas. Four mezzanine levels, also used for storage, are located at various locations in the building.

Continuous aiseways traverse the north-south length of the structure through the center, on the west side, and on the east side. The center aiseway is continuous northward out of the Building 2, through an enclosed area between Building 1 and 2, and through Building 1.

Two enclosed areas between Buildings 1 and 2 housed metal treating activities when the facility was in operation. The western enclosed area, approximately 4,300 square feet, was a metal cleaning and anodizing area. The eastern enclosed area, approximately 6,700 square feet, housed chemical milling operations. Equipment from the former chemical milling operations is still in place.

Concrete containment pads on the east side of the building are the former locations of a chrome recovery system, a coolant recovery system, and an oil filtration system. All of the equipment from these operations has been removed.

An enclosed area on the east side of Building 2 and on the south side of Building 41 housed chemical milling operations. Some of the equipment from this operation, such as large process tanks within secondary containment areas, remains in place. Some of the tanks are coated with a white precipitate.

### Building 3

Building 3 is an approximately 168,000 square foot, three-story brick office building that housed DAC administrative offices when the facility was in operation. Most of the offices are currently vacant.

The structure was originally a rectifier building when the facility was an aluminum production plant. Aerial photographs from the 1940s show a large number of electrical transformers on the west side of the building and another structure that appears to be a maintenance building to the west of the transformer bank. The layout of the rectifier building is not known. DAC facility drawings show that the building was renovated into its present layout in 1952.

### Building 4

Building 4 is an approximately 3,000 square foot structure which houses electrical equipment. A room in the eastern portion of the building is used for battery charging. All

electrical power for the C-6 facility enters through control boxes in this building. The construction date of this building is not known.

#### Building 11

Building 11 is an approximately 20,000 square foot, five story building that formerly housed maintenance operations. The building is currently used for storage of maintenance equipment, office equipment, and records.

#### Building 13

Building 13 is an approximately 800 square foot brick storage shed. Recent uses have included the storage of compressed gas cylinders. Historical uses are unknown.

#### Building 14

Building 14 is an approximately 7,500 square foot building that housed the company store. The structure was part of the original construction of the Subject Property. The building is currently used for records storage.

#### Building 15

Building 15 is an approximately 6,200 square foot brick building that housed the payroll department and a photo lab. It is presently used as a shipping office.

#### Building 19

Building 19 is an approximately 7,500 square foot brick building that houses the security office and emergency services for the facility. The building also served this function during manufacturing operations.

#### Building 40

Building 40 is an approximately 4,200 square foot brick structure. Drums of lubricant and hydraulic oil are presently stored in the building. It was formerly used as a chemical storage area.

#### Building 41

Building 41 is an approximately 4,700 square foot building that was formerly the boiler house. Three of the boilers have been removed, while one remains in place but not in operation. Operating equipment in this building consists of two air compressors.

#### Building 45

Building 45 is currently the hazardous waste accumulation area for the facility. Hazardous waste disposal is contracted by DAC to an outside vendor who is responsible for the maintenance of this area. This area was constructed between 1986 and 1989.

#### Building 66

Building 66 is an approximately 200,000 square foot warehouse that was constructed in 1972. Prior to its construction, this area of the facility was a storage yard. Other activities in the building include the assembly of shipping supplies and light tool cutting.

Building 66-1 is an approximately 6,300 square foot wood-frame shipping office north of Building 66. An oil-stained concrete slab area to the west of Building 66-1 is a cleaning area. The cleaning area drains to a sludge tank to the north.

#### Tool Storage Yard

The tool storage yard is a roughly rectangular area of about 1.1 million square feet in the southwestern portion of the Subject Property. The yard is bounded by railroad tracks to the east and south, Western Avenue to the west, and the Capitol Metals facility to the north.

The area is used to store a vast quantity of master tools used to make aircraft parts. Most of the tools are stored in wooden crates in a wide variety of sizes. Nine railroad spurs divide most of the tool yard into north-south trending strips, and are flanked on both sides by tools. Three small buildings (numbers 54, 55, and 56) located near the gate to the yard are used for office space and storage of forklifts, service vehicles, and tools. A transformer is located adjacent to building 54. No staining or signs of spillage were observed on the ground around the transformer.

#### Scrap Material Storage Area

The scrap metal storage area, also known as the bone yard, jig yard, or triangle area, occupies the southernmost portion of the Subject Property. The area comprises about 100,000 square feet in a long, narrow strip bounded by a transformer substation to the east, residential development to the south, railroad tracks to the north, and Western Avenue to the west. Unused miscellaneous equipment and material stored in the area included a chromic acid dip tank and wire mesh dip tank baskets, trash compactor, cyclone vents, refrigerators, a large quantity of steel beams and pipes, cement parking pylons, pumps, sheet metal, cinder blocks, tires, and railroad rails. Also stored in the area was a waste oil pump attached to a small temporary holding tank, and two small roll-off bins. Labeling indicates the bins were used to collect and transport the waste oil to a disposal facility.

#### Groundwater Monitoring Wells

Eleven groundwater monitoring wells located throughout the Subject Property are part of a quarterly groundwater monitoring program implemented by DAC to evaluate the chemical characteristics of shallow zone aquifers beneath the C-6 facility (Figure 3). An additional four wells located on the C-6 facility are part of the quarterly monitoring program but are not located on the portion of the facility included in the Subject Property.

Eight of the groundwater monitoring wells, constructed with 4-inch diameter Schedule 40 PVC, have a total depth of approximately 90 feet bgs. Two of the wells, similarly constructed, have a total depth of approximately 120 feet. One well is constructed with 2-

inch diameter PVC with a total depth of approximately 90 feet. All of the wells are locked, capped with a flush-mounted Christy box, and labeled as monitoring wells.

Four groundwater monitoring wells located near the south end of the Subject Property were installed to investigate possible chemical transport in the shallow zone related to earlier pesticide production activities at the adjoining property, the former Montrose Chemical Plant site, to the south. The wells are constructed with 4-inch diameter casing and have dedicated pumps. The wells were installed in 1990 as a part of the Montrose Site Remedial Investigation conducted under the direction of the EPA.

### **3.2 Adjoining Properties**

The Subject Property is bordered by the remainder of the C-6 facility on the north, by the International Light Metals (ILM) property to the west, by the former Montrose Chemical site and a DAC storage yard to the south, and by South Normandie Avenue to the east. The surrounding properties consist mainly of light industrial and manufacturing facilities and office buildings.

An aerial photograph from the Spence collection indicates that the surrounding properties were farmland as late as 1933. Sometime during the 1930s, industrial development began to the southeast and south of the Subject Property. The records review indicates that the Montrose Chemical Plant produced pesticides in a facility located adjacent to the C-6 facility to the south. A large rubber production facility was located to the southeast across South Normandie Avenue. Photographs from 1941 and 1945 indicate the property to the west of the C-6 facility was first developed as a rubber plant during that time period. Subsequent photographs indicate that this facility underwent several additions and renovations up to the 1990s. A large manufacturing plant was developed to the east of South Normandie Avenue sometime between 1945 and 1956. Photographs from the 1960s to the present show that there was much development and industrial redevelopment of the areas surrounding the C-6 facility.

Present development to the north of 190th Street consists of office buildings. An office building located at the northeast corner of 190th Street and South Normandie was built in

1986. Properties to the east of the C-6 facility across South Normandie include a Texaco gas station, a cement plant, a bakery, an office building, and an auto repair shop.

The vacant property to the south of the Subject Property is the former location of the Montrose Chemical Plant. The plant has been demolished and the property has been capped with asphalt. Demolition activities are on-going at the ILM facility to the west. Nearly all aboveground structures have been removed from ILM's property.

C-6 facility operations to the north of the Subject Property included chemical storage in Building 36, parts machining in Buildings 37 and 29, a cafeteria in Building 32, and a transportation maintenance shop in Building 20. Buildings 29, 34, 37, 57, 61, and 67 are scheduled for demolition in 1996.

### **3.3 Site and Regional Geology and Hydrogeology**

The following sections describe the Subject Property and regional geology and hydrogeology.

#### **Subject Property and Regional Geology**

Kennedy/Jenks reviewed boring logs from the demolition plans of Building 67 dated 2 February 1968 and a Phase II subsurface soils investigation performed in 1991 (CDM, 1991). The reports show that the Subject Property is underlain by fine-to medium-grained sand, silty sand, and clayey sand. Borings from both investigations were advanced to a depth of approximately 30 feet below ground surface (bgs).

Regionally, the Subject Property is located in the Torrance Plain. Subsurface sediments in this region consists mainly of Recent alluvial deposits of gravel, sand, clay, and silt to a depth of approximately 175 feet bgs.



## Subject Property and Regional Hydrogeology

According to Department of Water Resources (DWR, 1961), the Subject Property is located in the Torrance Plain and underlain by the Gage Aquifer, a water-bearing zone within the Lakewood Formation, from approximately 110 to 160 feet bgs. The Lakewood Formation extends to a depth of approximately 175 feet bgs. Beneath the Lakewood Formation is the San Pedro Formation, which extend to a depth of approximately 1,000 feet bgs. Water-bearing zones in this formation consist of the Lynwood Aquifer from approximately 300 to 390 feet bgs and the Silverado Aquifer from approximately 400 to 670 feet bgs (DWR, 1961). The Silverado Aquifer is considered a source of drinking water.

According to recent groundwater monitoring performed by Kennedy/Jenks for DAC (Kennedy/Jenks, 1996), local groundwater elevations range from approximately 15.5 feet to 16 feet below msl. Recent and historical data suggests that the groundwater flow direction is to the southeast.

Groundwater samples collected from the network of wells at the C-6 facility (Figure 3) indicate that the shallow zone aquifer at approximately 60 to 90 feet bgs has been impacted by chlorinated and non-chlorinated volatile organic compounds (VOCs), particularly in the area of well WCC-6S near the central western exterior of Building 1 and well WCC-3S near the northeast corner of Building 1.

Maximum chemical constituent concentrations detected in the most recent sampling event included 1,1 - dichloroethene (1,1-DCE) (11,000 micrograms per liter ( $\mu\text{g/L}$ )), 1,1-dichloroethane (1,1 - DCA) (350  $\mu\text{g/L}$ ), 1,1,1-trichloroethane (1,1,1 - TCA) (3,100  $\mu\text{g/L}$ ), trichloroethene (TCE) (2,600  $\mu\text{g/L}$ ), cis-1,2-DCE (4,400  $\mu\text{g/L}$ ), trans-1,2-DCE (400  $\mu\text{g/L}$ ), benzene (130  $\mu\text{g/L}$ ), toluene (23,000  $\mu\text{g/L}$ ), and chloroform (45  $\mu\text{g/L}$ ). The maximum concentrations were detected in samples collected from wells WCC-1S and WCC-3S.

Chemical constituents detected in well DAC-P1, located north of the Subject Property along the western boundary of the facility, included TCE (20,000  $\mu\text{g/L}$ ). Quarterly monitoring dating back to 1987 for well DAC-P1 does not show significant changes in TCE

concentrations. Recent data for the remaining analytes have been consistent with historical monitoring data.

In a technical memorandum dated 5 July 1994, Kennedy/Jenks reviewed available environmental regulatory agency files to evaluate the potential for the onsite migration of VOCs from offsite sources. In the memorandum, Kennedy/Jenks identified three sites with the potential to impact the groundwater beneath the Subject Property. Industrial Molding Company (IMC), located at 2015 West 190th Street, is located approximately 3/4-mile west and upgradient of the C-6 facility. Previous operations at the IMC facility produced paint sludges, polymeric resin wastes, oil/water sludges and metal dust. Risto-Los Angeles, located at 1441 West 190th Street, north of the C-6 facility, manufactures industrial and refrigeration machinery and equipment. The California Department of Toxic Substance Control identified Risto as a site for preliminary environmental assessment. The potential impact of this location on the Subject Property is not known. ILM, located at 19200 South Western Avenue, is adjacent to the Subject Property to the west. Wastes generated at the ILM facility included spent acidic and caustic sludges, spent petroleum solvents, polychlorinated biphenyls (PCBs) and spent 1,1,1-TCA. Both petroleum solvents and chlorinated solvents were stored in USTs at the site.

In a report dated 12 June 1991, Kennedy/Jenks performed sampling of the monitoring wells installed for the Montrose Site Remedial Investigation and performed a review of technical documents regarding historical activities at the both the Montrose site and the Subject Property (Kennedy/Jenks, 1991). The report was prepared to investigate the occurrence of chloroform and chlorobenzene in the vicinity of the Subject Property and to evaluate the possibility that these chemicals could have originated from releases at the Montrose site. Analytical data compiled from May 1989 to February 1991 for the report indicated that chloroform concentrations in well MW-09, screened in the shallow aquifer, ranged from 28,000 µg/L to 85,000 µg/L. Chlorobenzene concentrations ranged from 77,000 µg/L to 180,000 µg/L. The report concluded that the chloroform and chlorobenzene concentrations encountered in the shallow aquifer were associated with releases at the Montrose site and had migrated northward due to either upper unsaturated zone geologic structures, localized piezometric differences caused by a settling pond on the Montrose property, or a combination of both.

## **4.0 ENVIRONMENTAL RECORDS REVIEW**

The following section summarizes information obtained during the review of available regulatory agency database listings and facility records supplied by DAC.

### **4.1 Regulatory Agency Records Review**

Kennedy/Jenks conducted a review of available environmental regulatory agency database listings for references to the Subject Property and to evaluate the presence of adjoining properties that may be of concern to the Subject Property. Kennedy/Jenks retained Vista Environmental Information, Inc. (Vista) to assist with the database listing search. A copy of Vista's report appears in Appendix C.

Vista performed a review of 17 pertinent environmental regulatory agency databases. The database search included 141 references within five-eighths of a mile of the Subject Property (including the Subject Property), 27 references within five-eighths to three-quarters of a mile, 22 references within three-quarters to one mile, and eight references within one to one and one-half miles. The C-6 facility appeared on seven of the databases searched:

- A reference to DAC exists in an EPA database list of large quantity generators who generate at least 1000 kilograms per month of hazardous waste.
- The C-6 complex appears on both a state and regional database listing of sites with leaking USTs. Both references indicate that groundwater was impacted by solvents.
- There are three references to the C-6 facility on the state database list of facilities with USTs. The three references indicate an inconsistent number of USTs at the C-6 facility.
- The C-6 facility appears on the CERCLIS list, an EPA-maintained database list of sites either proposed or current National Priorities List (NPL) and sites which are or were in

the screening and assessment phase for possible inclusion on the NPL. CERCLIS sites designated as “No Further Remedial Action Planned (NFRAP)” may be sites where an initial investigation found that there were no environmental impacts, environmental impacts were removed quickly without need for the site to be placed on the NPL, or the environmental impact was not serious enough to require NPL consideration. The database reference indicates that the C-6 facility is currently an NFRAP site.

- Four references were recorded on the Emergency Response Notification System (ERNS) database. The ERNS database is a collection of reported releases of oil or hazardous substances made to federal authorities including the EPA, the US Coast Guard, the National Response Center, and the Department of Transportation. Two of the references are linked to a release of an unknown amount of nitrogen dioxide gas on 15 December 1993. The third reference is related to a spill of an unknown amount of a petroleum hydrocarbon. The fourth reference is related to a spill of hydrofluoric acid. In all of the cases, the agency to which the release was reported was not included in the database information.

Several properties adjacent to the C-6 facility appeared in the database listings.

- Lawson Enterprises, Inc., located at 19500 South Normandie Avenue, is on the database list of proposed, current, or deleted NPL sites. The database listing indicates that no further remedial action was planned as of 1 June 1986. Jay Steinbeck is noted on the state-maintained list of USTs at the same address as Lawson Enterprises. This site is located east of the Subject Property across South Normandie Avenue.
- Pacific Gateway at 19525 South Normandie is referenced on a database list of small quantity hazardous waste generators. This site is located east of the Subject Property across South Normandie Avenue. The database reference does not indicate the type of wastes produced at this site.
- Alpine Foreign Car Service at 19530 South Normandie Avenue is referenced on the database list of large quantity generators. This site is located east of the Subject

Property across South Normandie Avenue. The database reference does not indicate the type of wastes produced at this site.

- The Del Amo Facility, a 3.7 acre area located about one-quarter mile to the southeast of the Subject Property, appears on the EPA's National Priority List, California Department of Toxic Substances Control's State Priority List, and on the CERCLIS list. The database listing indicates that EPA has taken regulatory responsibility for the site and that remedial investigations are currently under way. The Del Amo facility was used as a waste disposal area for local rubber manufacturers from 1942 to 1969. Sampling of groundwater at the Del Amo site has indicated the presence of polynuclear aromatic hydrocarbons and VOCs in the groundwater (Kennedy/Jenks, July 1994). The VISTA map illustrates both the area of the site and offsite areas being screened as part of the site assessment.
- The site at 1225 West 196th Street is referenced six times in the databases reviewed. This site borders South Normandie Avenue to the west and is southeast of the Subject Property. American Polystyrene appears on the database list of large quantity hazardous waste generators and on a database registry of users of hazardous chemicals known as the Toxic Release Inventory System (TRIS). The TRIS reference indicates that chemicals used at the site include styrene and ethylbenzene. Amoco Chemicals at the same address appears on the EPA CERCLIS list, the state CERCLIS list, and on the CORTESE list, a state-maintained list of sites with hazardous materials releases. Amoco is also on the ERNS list for a 5,000 pound release of styrene gas on 7 September 1990.
- Greene's Ready Mix Concrete at 19030 South Normandie Avenue appears on a state-maintained list of UST owners and on a state-maintained list of leaking UST owners. The leaking UST reference indicates that the release was cleaned up and that the case has been closed. This site is located to the east of the Subject Property across South Normandie Avenue.

- A Texaco station located at 19008 South Normandie appears on the state-maintained list of UST owners. The gas station is located east of the Subject Property on the southeast corner of West 190th Street and South Normandie Avenue.
- South Bay Corp. at 1411 West 190th Street appears on the state-maintained list of leaking UST owners, a regional list of leaking UST owners, and on the CORTESE list. The database references indicate that a UST containing diesel has released an unknown quantity of fuel. The references also indicate that no remedial actions have been taken by the responsible party. This site is north of the Subject Property across West 190th Street.
- The facility adjacent to the Subject Property to the west, located at 19200 South Western Avenue, appears on seven databases. The site appears twice on the CORRACTS list, a list of facilities which have received a corrective action order from the EPA due to a release of hazardous materials or wastes into the environment. The CORRACTS reference for a Northrop Corporation at this site indicates that no further action is necessary. The CORRACTS reference for a Martin Marietta facility at this location indicates that further corrective action is necessary, but that the site has a low prioritization status. The site also appears on the CERCLIS list and the state-equivalent CERCLIS list. The database listing on the CERCLIS list indicates that the site is undergoing preliminary assessment activities; the database listing for the state listing indicates that no further action is required at the site. The site appears again on the CERCLIS list as Martin Marietta Aluminum. This reference indicates that the site is still in discovery status. The site appears on the state lists of aboveground storage tanks (ASTs) and USTs; no further information about the site is available from these reference listings. Six references in the ERNS database shows that the following releases of hazardous materials occurred:

An unknown amount of waste oil and lubricants were spilled on the site on 1 February 1990.

400 gallons of oily water were spilled on 3 August 1990. This incident has two listings in the ERNS database.

900 gallons of chromic anhydride were discharged to the sewer system on 25 October 1991.

100 gallons of oil were spilled on 29 May 1990. (This incident has two listings in the ERNS database.)

- The former Montrose Chemical facility located directly adjacent to the C-6 facility to the south appears on five databases. The site is listed on the NPL, SPL, and CERCLIS list. The site is currently on the NPL due to releases of DDT to groundwater.

## **4.2 DAC Documents**

Kennedy/Jenks reviewed environmental documents for operations at the C-6 complex supplied by DAC Environmental Services. These documents included UST removal reports, remediation reports, site assessment reports, historical drawings, and a technical memorandum. The following sections summarize the findings of the document review process that pertain to the Subject Property.

### **UST Removal and Soil Remediation Reports**

Kennedy/Jenks reviewed several UST removal reports for USTs removed from the C-6 complex. The reports detailed tank removal activities of 21 USTs from various locations throughout the Subject Property. In most cases, the reports indicated that some soils surrounding the tanks had been impacted by petroleum hydrocarbons, but confirmation sampling following further excavation indicated that soils with hydrocarbon concentrations above regulatory limits had been removed.

However, soils with concentrations of total petroleum hydrocarbons (TPH) greater than 100 milligrams per kilogram (mg/Kg) were left in place at tanks 27T (Building 2, west patio 2-GG-51-54), 28T (Building 2, west patio 2-GG-41-44), and 31T (Building 2, east patio 2-U-11-14) because further excavation would have destabilized present structures (Crosby & Overton, October, 1988). The excavations were left open and re-sampled several years

later for gasoline by modified EPA Method 8015 and for benzene, toluene, ethylbenzene, and xylenes by EPA Method 8020. According to DAC personnel, the analyses indicated that concentrations of the chemicals of concern were below detection limits. The excavations were subsequently backfilled.

In 1994, six USTs were removed by Maness Environmental. Two 50,000 gallon fuel oil USTs were removed from the north side of Building 41. Two 7,500 gallon and two 500 gallon hydraulic oil USTs were removed from the east side of Building 1. Soils found with elevated concentration of TPH were excavated and disposed (Maness, 1994).

Woodward-Clyde Consultants performed two soil borings in Building 41 in 1987. A soil sample collected from 50 feet bgs was analyzed by EPA Method 418.1 for TPH and found to contain 19,000 mg/Kg of TPH. Soil samples collected from another boring indicated TPH concentrations of 13,000 mg/Kg at 25 feet bgs and 4100 mg/Kg at 30 feet. The source of the petroleum hydrocarbons is believed to be from leaking product line leading from former USTs on the north side of the building (Woodward-Clyde, 1987).

Three 5,000 gallon solvent USTs and one 3,000 gallon waste solvent UST were removed from the exterior breezeway between Buildings 1 and 36 in 1991. Analysis of soil samples collected from beneath the tanks indicated that the surrounding soils had been impacted by petroleum hydrocarbons and VOCs. The impacted soils were left in place for future management by DAC (Emcon, 1992). During further assessment of the impacted area, soils were found to contain TCE and methyl ethyl ketone (MEK) at up to 60 feet bgs. It was estimated that the lateral extent of impacted soils extends in a southeast direction beneath Building 1 (Montgomery, 1994). Remediation activities are on going.

#### Site Assessment Reports

Kennedy/Jenks reviewed separate Phase I and Phase II site assessments performed by CDM for DAC in 1991. A Phase I was performed for two parcels at the C-6 complex: the northern parking lot that is part of the Subject Property and the tool storage yard located to the southwest of the C-6 complex. CDM concluded that neither of the parcels appeared to have been used for the generation or storage of hazardous wastes or substances. Based



on groundwater monitoring results that showed elevated concentrations of TCE , CDM recommended sampling along the western fence of the parking lot to investigate the possibility that activities at the adjacent facility to the west had impacted the subsurface beneath the Subject Property.

For the Phase II assessment, CDM advanced three soil borings in the parking lot to a total depth of 31.5 feet bgs. The soil samples were analyzed for VOCs, priority pollutant metals, PCBs, and organochlorine pesticides. Based on the analytical results that showed all analytes at concentrations below regulatory limits, CDM concluded that further investigation of the parking lot subsurface was not necessary.

In Building 2, deteriorated concrete pads were discovered beneath chromic acid tanks that were removed from the area near column 2-X-11 in 1988. Soil borings advanced to 31 feet showed elevated concentrations of chromium. Soils with total chromium concentrations greater than 50 mg/Kg were removed. However, some soils with concentrations as high as 170 mg/Kg were left in place in the north wall of the excavation to maintain the stability of the building. Lateral migration of the chromium in the south wall of the excavation had been limited to a few feet. (Woodward-Clyde, May 1988).

Subsurface sampling in the area of former chrome plating tanks in 1989 indicated that hexavalent chromium concentrations ranged from 80 mg/Kg at 7.5 feet bgs to 1400 mg/Kg at 2.5 feet bgs (Environmental Solutions Inc., 1989). DAC was advised to remove the upper 5.5 feet of soil. According to DAC personnel, soils were removed until total chromium concentrations were below 50 mg/Kg, and the excavation was backfilled.

#### Historical Drawings

Historical drawings provided by DAC included an Aluminum Company of America (ALCOA) drawing dated 25 February 1942 entitled "Bldg. #68 - 5000 bbl. Fuel Oil Tanks and Pump House Foundations - Plan and Details, another ALCOA drawing dated 3 May 1943 entitled "D.P.C. - Fuel Storage Tanks - Their Location", a DAC drawing originally dated 3 September 1963 entitled "Master Shore Station Development Plan", and as-built drawings and demolition plans for the additions performed on the Subject Property dated

May 1968. Other drawings made available by DAC included demolition plans and as-built drawings from 1952 to 1953, original floor plans from 1944, and a C-6 facility plot plan from 1984.

Several USTs were also located to the east of Building 20 (north of the Subject Property). Three transfer lines led to the south onto the Subject Property and east towards Building 1.

According to the 1943 ALCOA drawing, one UST was located approximately midway between the northwest corner of Building 1 and Building 29.

A 1952 demolition drawing indicates that there were six pits and sumps ranging in depth from six feet to nine feet in the northeast corner of Building 1. The drawing does not indicate the contents or the condition of the pits prior to demolition. There were also six fuel oil USTs in two locations in Building 1. The demolition plan indicates that the USTs were to be removed. A floor plan from the original structure shows a pit of unknown depth near column 1-R-28 (there is no present indication of the location of this pit).

Available floor plans from as-built drawings dated September 1953 for Building 2 show that sumps or pits were located in the following areas:

Four 3-foot pits near column 2-PP-5 (there is no present indication of the location of these pits);

One 18-inch pit north of column 2-JJ-3 (there is no present indication of the location of this pit);

One pit of unknown depth between columns 2-A-1 and 2-A-3 (there is no present indication of the location of this pit);

Two pits of unknown depth north of columns 2-A-1 and 2-B-1 (there is no present indication of the location of these exterior pits);

Five “conveyor pits” south of columns 2-P-50 through 2-U-50 (concrete patches indicate the former location of these pits);

One settling basin of unknown depth near column 2-JJ-51 (there is no present indication of the location of this basin);

One “conveyor pit” south of column 2-TT-51 (a concrete patch indicates the former location of this pit);

One settling basin of unknown depth between columns 2-TT-41 to 2-TT-44 (there is no present indication of the location of this basin);

The C-6 plot plan illustrates the type of operations that were being performed in each area of the facility in 1984. The following areas of environmental interest were noted on the drawing:

Operations in the northeast and east area of Building 1 included chemical milling and etching;

A chrome removal system, a coolant recovery system; and an oil filtration system were located on the east side of Building 1 (all equipment associated with these systems have been removed);

Metal machining, grinding, and fabrication operations were located throughout Building 1;

A degreasing area was located in the vicinity of column 2-PP-10 in Building 2;

An x-ray lab was located in the vicinity of column 2-W-28 in Building 2;

A chemical lab was located in the vicinity of column 2-W-46;

A cyanide storage building occupied the present location of Building 45;

A copy of the plot plan is included in Appendix B.

#### Technical Memorandum

A technical memorandum written by Kennedy/Jenks and dated 5 July 1994 summarizes the result of an assessment for the potential onsite migration of VOCs from offsite areas and assesses the value of installing offsite monitoring wells to evaluate groundwater conditions upgradient from the C-6 complex. The report identified three sites with a potential to impact groundwater quality beneath the Subject Property and concluded that further offsite subsurface investigation would not aid in the identification or remediation of impacted groundwater beneath the C-6 facility.

The three sites identified were:

- the former ILM facility adjacent to the Subject Property to the west;
- the Industrial Molding Corporation facility located approximately 3/4-mile west of the Subject Property; and
- the Risto-Los Angeles facility located to the north of the Subject Property across West 190th Street.

The report suggested that an offsite source or sources have significantly contributed to concentrations of solvents detected in a groundwater monitoring well located on the Subject Property within the C-6 complex.

#### **4.3 Sanborn Fire Maps**

Kennedy/Jenks retained Vista to perform a Sanborn Map-Site Search for the Subject Property. Sanborn certifies that no Sanborn Maps are available for the Subject Property.

## **5.0 SITE WALK-THROUGH OBSERVATIONS AND INTERVIEWS**

The following sections summarize observations and areas of potential environmental interest noted during the site walk-throughs and during interviews with DAC personnel.

### **5.1 Hazardous Substance and Waste Handling**

Because most the Subject Property is now used for storage and most heavy equipment has been removed, it is difficult to assess hazardous substance and waste handling practices when the manufacturing activities were in operation. Currently, there are few hazardous materials used at the facility. Hazardous wastes generated at the facility include mostly soiled rags, paint waste, and aerosol cans.

Conditions at the hazardous waste accumulation area (Building 45) appeared to be in good condition and in compliance with applicable regulations.

Drums of MEK, 1,1,1-TCA, and butanol were observed in a former paint area near column 2-G-50. The drums were stored on crates directly on the floor. Approximately 15 crates consisting of 6 to 12 5-gallon canisters of perchloroethene were also observed in this area.

Floor drains in a room to the west of west patio 2-UU-31-34 had dark staining in them. The room appeared to be a former air compressor area.

Concrete containment pads remain at the former location of the chrome removal system, the coolant recovery system, and the oil filtration system located on the east side of Building 1. The containment pads appeared to be in good condition with some rust-colored staining.

A wash pad located west of Building 66-1 was observed to be heavily stained with a dark, oil-appearing substance.

In the tool storage yard, moderate stains were observed on the asphalt in front of buildings 54 and 55, where the forklifts and service vehicles are normally parked.

A waste oil pump with temporary holding tank was located in the storage area at the southern end of the Subject Property. A small oil stain has formed on the asphalt beneath the lower outlet of the holding tank.

A drain in the storage area at the southern end of the Subject Property had moderately dark stains on the asphalt around it.

## **5.2 USTs, Sumps, and Clarifiers**

No USTs are present on the Subject Property (Parcel C). Two USTs and a two-pump fuel island are present on the east side of Building 20, immediately north of the Subject Property. DAC records indicate that one steel-walled tank at Building 20 containing gasoline has been tested and passed annually. One two-compartment double-walled fiberglass tank has been tested every five years since being installed in 1988. This tank passed its last test in 1993. The DAC records show that the USTs at Building 20 are in compliance with state regulations governing UST integrity testing.

One clarifier was observed on the north side of Building 41; one clarifier was also observed on the south side of the Building.

Clarifiers were observed in Building 2 at east patio 2-EE-41-44 and at west patio 2-UU-31-34.

Two 30-foot deep pits in a former steel heat treating area in the vicinity of column 2-CC-39 were full of concrete and debris. According to DAC personnel, the pits were former containment areas for dip tanks and a Gantry furnace. DAC personnel did not believe that large quantities of liquids were consistently contained in the pits. The construction date of the pits is unknown. Historical drawings indicate that there is a collection sump at the center of the south wall of each pit.

DAC personnel indicated that metal treating dip tanks were removed from the area between columns 2-TT-25 and 2-MM-25. Upon removal of the tanks, it was discovered that the pit was lined with bricks. The bricks were removed and the pit was backfilled and capped with concrete. No environmental sampling of the soils beneath the pits was performed.

### **5.3 ASTs**

A process line consisting of 12 empty dip tanks in a western annex of Building 1 was a titanium treating area. Chemicals used in the process included nitric acid, hydrofluoric acid, sodium hydroxide, and potassium hydroxide. A wash rack or rinse rack against the western wall of the room was coated with a white precipitate.

Empty process tanks from a metal etching operation in an enclosed area on the east side of Building 1 are still in place. The tanks were not labeled. Some of the tanks are coated with precipitate.

A process line consisting of six empty dip tanks from an aluminum milling operation in the eastern enclosed area between Building 1 and 2 is still in place. These tanks are approximately 15 feet tall. Labels on the tanks indicate previous chemicals used included sodium hydroxide, sodium Polysulfide, sodium thiosulfate, nitric acid, and sulfuric acid. ASTs for the process lines were located on the eastern exterior of the enclosed area. The ASTs have been removed.

An empty polypropylene tank labeled as a cyanide solution tank was located in the west patio at 2-UU-31-34.

Approximately 43 empty dip tanks in a metal treating area at column 2-UU-29 are still in place. Many of the tanks are coated with varying degrees and types of precipitate. Labels on the tanks indicate that the tank contents included cadmium oxide, sodium cyanide, sodium carbonate, sodium hydroxide, cadmium anodes, copper anode, chromic acid, nitric acid, hydrochloric acid, formic acid, hexavalent chrome, stoddard solvent, sulfuric acid,

and phosphoric acid. The floor surrounding the tanks appears to be coated with a sealant and is covered with fiberglass grating. DAC personnel indicated that the floors in this area were usually wet. Most of the tanks have some type of precipitate coating.

An empty dip tank was located at the storage area at the southern end of the Subject Property. A label on the tank indicates that chromic acid was used in it. In addition, several wire mesh dip tank baskets of various sizes are located in the storage area.

#### **5.4 Asbestos-Containing Materials**

A survey for potential asbestos-containing materials was not performed as a part of this PESA. According to MDRC personnel, an asbestos survey has already been performed on the Subject Property.

Asbestos was commonly used in building materials prior to 1977. Based on the age of the facility, it is likely that asbestos-containing materials are present on the Subject Property.

#### **5.5 PCBs**

Fluorescent light ballasts and electrical transformers manufactured prior to 1977 may contain oils with PCB concentrations requiring special management. Electrical transformers may also contain oils with PCB concentrations requiring special management.

Fluorescent light ballasts that appeared to be manufactured prior to 1977 were observed throughout the Subject Property.

All electrical transformers at the C-6 facility have been tested and labeled for the presence (or non-presence) of PCBs. According to DAC documents, there are three PCB-containing transformers in Building 1 and 13 PCB-containing transformers in Building 2.



## **5.6 Lead-Based Paint**

Based on the age of the buildings on the Subject Property, lead-based paints are likely present.

## **6.0 CONCLUSIONS**

Due to the age of the Subject Property, numerous renovations and additions, and the conversion of operations from manufacturing activities to storage and warehousing, it is difficult to assess past environmental impacts. However, several definitive areas of environmental interest were identified during the PESA. These areas relate to past manufacturing processes, hazardous materials usage areas, clarifiers, USTs, ASTs, areas identified on facility drawings, and impact from adjacent properties.

There is a possibility that any release of a hazardous substance could have impacted surrounding soils at the following areas on the Subject Property:

- The former location of the chrome recovery system, the coolant recovery system, and the oil filtration system on the east side of Building 1;
- Chemical etching operations in the northeastern areas of Building 1;
- Several pits and sumps of unknown contents and depth in the northeast corner of Building 1 that were removed during renovation activities in 1952;
- Former USTs located midway between Building 2 and Building 29 and fuel transfer lines leading from USTs on the east side of Building 20 to Building 2.
- Numerous pits and sumps noted on as-built floor plans for a 1953 renovation of Building 2;
- A degreasing area near column 2-PP-10 in Building 2;
- Dark stained floor drains in west patio 2-UU-31-34;
- Clarifiers in Building 2 at east patio 2-EE-41-44 and west patio 2-UU-31-34;
- Machine pits located in Building 2 in the vicinity of column 2-CC-39;
- Former metal treating tanks located in Building 2 near column 2-TT-25 through 2-MM-25;

- Former metal treating tanks still in place near column 2-UU-29 and a former chemical storage area in the west patio to the south of the treatment tanks;
- Operations in a former maintenance building west of Building 3;
- Drain lines leading from a former photo lab in Building 15;
- Floor drains near air compressor in Building 41;
- Clarifiers located on the north side and on the south side of Building 41;
- A cyanide storage building located in the current area of Building 45;
- A dark stained concrete washing area west of Building 66-1;
- Dark-stained asphalt around a drain in the storage area at the south end of the Subject Property.

Residue and precipitate on process tanks and related equipment such as vapor hoods present areas of environmental interest. Areas of concern include:

- A process line consisting of 12 dip tanks in a western annex of Building 1;
- Empty process tanks in an enclosed area on the eastern exterior of Building 1;
- A process line consisting of six large dip tanks in an enclosed area between Building 1 and Building 2;
- Approximately 43 empty dip tanks and plating tanks located in the vicinity of column 2-UU-29 in Building 2.

Soils beneath Building 41 have been impacted by petroleum hydrocarbons; possibly from leaking fuel lines that supplied boilers in this building.

Chromium impacted soils were left in place during remediation activities in an area near column 2-X-11 in Building 2. Further excavation of impacted soils would have resulted in the destabilization of structural footing.

The Subject Property is within one-quarter mile of two EPA Superfund sites, one of which is adjacent to the Subject Property to the south. Elevated concentrations of chloroform and chlorobenzene have been detected in a monitoring well installed on the Subject Property near the southern boundary. These chemicals are believed to have originated from the Superfund site.

Quarterly sampling and analysis of groundwater collected from a monitoring well located near the western boundary suggests that solvents detected in the groundwater beneath the subject property may have originated at an offsite source.

Historical documents and quarterly groundwater sampling and analysis from a network of monitoring wells installed throughout the north central areas of the Subject Property suggests that groundwater beneath the Subject Property has been impacted by solvent releases from former USTs located between Building 1 and Building 36. Remediation activities by DAC are being implemented.

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